

# Shaping Sustainable Development Thru Sustainable Education: An Investigation Among Sustainable Consciousness Among Adolescents In TVET Education

*by* Rosmanizah Derahman

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# Shaping Sustainable Development Thru Sustainable Education: An Investigation Among Sustainable Consciousness Among Adolescents In TVET Education

Norman bin Zamri<sup>1</sup>, Rosmanizah Derahman<sup>1</sup>, ,  
Nur Nadia Saheera Ros Laili<sup>1</sup>, Nurwahida Johari<sup>1</sup>,

<sup>1</sup>Politeknik Sultan Idris Shah

[rosmanizah@psis.edu.my](mailto:rosmanizah@psis.edu.my)

## ABSTRACT

Sustainability holds to our ability to maintain at a certain level which is bearable and capable. Consciousness towards it would bring our nation a step higher level. Thus this study is aiming at crystallizing the sustainability knowledge, attitude, and behavior among TVET education. This cross-sectional study is aiming at measuring sustainability consciousness. This quantitative study will utilize four sets of adapted items and would be distributed to all TVET institutions in Malaysia. The questionnaire will be conducted on 30 samples of a pilot test before it could be administered to the samples using simple random sampling. The finding is expected to give quite an impact and infer to sustainability awareness in Malaysian TVET education.

**Keywords:** *sustainable learning, consciousness, sustainable knowledge, sustainable attitude, sustainable behavior, TVET education.*

## 1. INTRODUCTION

Learning in a new era has been vastly challenging. Transform from traditional learning to outcome-based education (OBE) has been tremendously becoming emerging practice. Transformative learning which requires integration of various teaching and learning approaches which engage the head, heart, and hands for various discipline is quite complex to chew (Mahmud, 2017). Hence learning and sustainability have become an emerging field of inquiry (Rodríguez Aboytes & Barth, 2020).

Sustainable learning would be from various perspectives. There would be from organizational perspectives (Wijethilake & Upadhaya, 2020), supply chain (Sarkis, 2021), or from different levels of education. Sustainability learning would capture attention on the school approach (Bosevska & Kriewaldt, 2020) or higher education (Risopoulos-Pichler, Daghofer, & Steiner, 2020). Thus questions emerge as to how learning would sustain and contribute to education and further accelerate the growth of online learning especially during and after the Covid19 pandemic.

To date, various efforts have been made to understand and investigate these questions. This paper aims to help in closing the gaps and provide some overview on sustainable learning in higher education and the focus is aiming at providing insight to TVET Education. Learning is defined variously and Henry (2009) defines it as:

*The continuous and active process that “takes place both in action and interaction and focuses on the cognition-action relationship” and by which individuals, collective agents, or wider social systems assimilate information and update their cognitions and behavior accordingly.*

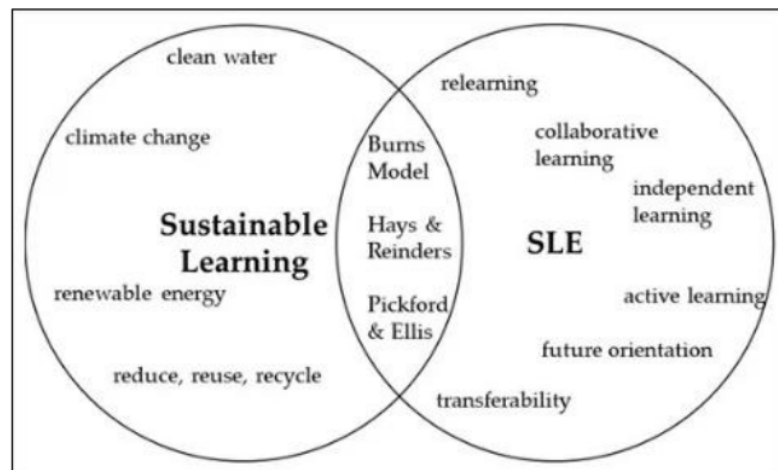


Figure 1: Overlaps on SL and SLE (Purvis, 2018)

The above figure 1 somewhat defines sustainable learning a way differently from sustainable learning in education (SLE) (Ben-Eliyahu, 2021). Sustainable learning (SL) is an emerging concept that is initially understood as learning that is retained and may be transferable (Hays & Reinders, 2020). It emphasizes retained knowledge and skills which would consist of ongoing, purposeful, responsive, and proactive learning.

As sustainability is concerned, there are three pillars namely economy, society, and environment (Purvis, 2018). These three pillars are also known as profit, people, and the planet. The so-called Prophet of Sustainability; Elkington (2020) predicts in his book an approaching crisis in the world economy and he offers solutions to crash capitalism which will be the systematic solution to global challenges and make this a better place for prosperity, people, and the planet. However, concern on sustainability is also aroused due to increasing environmental and society's problems. When 23% of people live in the cities, CO2 emission and consequential climate could end the world. Not to mention the plastic pollution, over-fishing, deforestation, biodiversity loss, and illegal wildlife trade would jeopardize and bring mass-scale destruction to the future habitable world (Figgenger, 2021).

Today, time can't be turning back but education would make people grow more trees, green the cities, clean up rivers and ocean and make peace with nature. As money talks and sustainability of prosperity, people and the planet is on the run, effortlessly.

### 1.1 Sustainable Learning

Sustainable learning is associated with lifelong learning (Livingstone, 1999) and a transferable process to learning to learn with engaging possibilities (Hays & Reinders, 2020). Others may also view sustainable learning as ecological thinking which sees sustainability as not an option rather than imperatively important. Holding the principles that we are all an agent in the ecosystem, sustainable learning put a great notion to sustainability. Hays & Reinders (2020) also believe that sustainable learning is the need to provide for today without damaging the future. Thus weighing on the future direction is seemingly required to ensure that today's preparation is enough. Awareness and consciousness are vital to see the future undertaking.

## 1.2 Sustainability Consciousness

Sustainability consciousness is related to the experience or awareness of sustainability phenomena. It would be viewed from self-experiences and perception which associated with one's belief, feeling, and action (Gericke, Berglund, & Olsson, 2018). Often, business and marketing sustainability has captured the attention and been explored frequently. It would be due to the fact that environmental and sustainability concern companies have higher earning (Ahmed, Motagno, & Firenze, 1998).

In education, TVET Technical and Vocational Educational Training in Malaysia is developing. TVET has been regarded as a primary provider of human capital in industrialized nations. TVET has become primary education in most developed countries and it has been witnessed that almost 70% of students in Germany have entering TVET (Ahmad et al., 2015). Thus to be more competitive in preparing its human capital, Malaysia put enhancement on its TVET.

Until 2010, it is only 28% of higher-skilled workers in Malaysia is Malaysian and this situation put the Malaysian government realize how important it increases TVET graduates. Thru its Economic Transformation Program (ETP), TVET graduates are expected to take 1.5 million from 3.0 Million employment in 2020. Today there are more than 500 TVET institutions from various ministries in Malaysia. TVET has become an engine of growth, especially in RMK 12 (Rancangan Malaysia Ke 12). These graduates are expected to become higher-skilled workers who will fulfil the demand for semi-skilled and skilled talents in the country. In 2016, more than 50% of school leavers joined TVET institutions proves that TVET institutions enrolment is succeeding (Technical and vocational education and training (TVET) in Malaysia, 2016). Above all, consciousness among these TVET students and lecturers becomes vital and crucial to future endeavours towards sustainability.

## 2. METHODOLOGY

To better measuring the sustainable learning consciousness among TVET students and educators, this cross-sectional study plan is as follows: First, we provide the literature to describe the underpinning theory to support this study. Second, a set questionnaire is designed to measure how knowledge, attitude, and behavior towards sustainable learning is influencing the consciousness of sustainable learning. Thirdly, the item has been developed and adapted from Michalos et al. (2011) which is based on Reasoned Action Theory. The framework is based on the work of Fishbein & Ajzen (2009) which found that knowledge, attitude, and behavior are the factors to consciousness.

Figure 2: Conceptual Framework

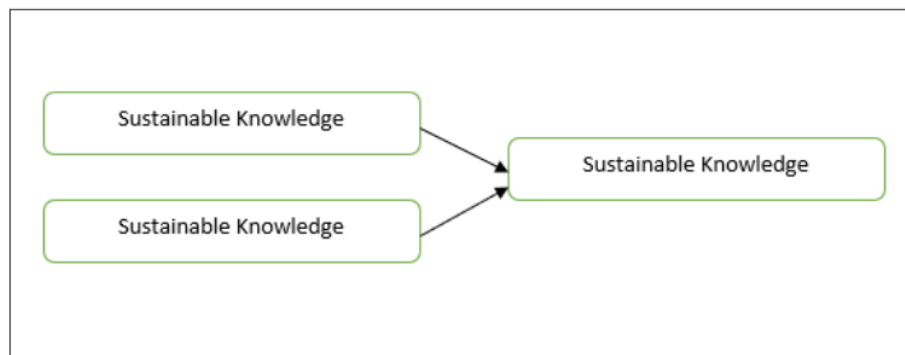


Figure 1 : Theoretical Framework

This Likert scale questionnaire uses a 4-point scale ranging from Definitely False to Definitely True. After this stage of writing, the item will be sent for peer-reviewed and then undergo a pilot test. 30 samples of the pilot test will be used. The sample frame would be the name list of all students in TVET institutions in Malaysia which will be acquired from each institution.

After the pilot test, the Cronbach Alpha would be used to see the reliability test as suggested by Creswell et al (2016). The original set of the questionnaire has been showing an overall internal consistency. This model showed an almost acceptable fit to the data (RMSEA = 0.033; CFI = 0.921; TLI = 0.917). All items to measure three independent variables and a single dependent variable would be conducted online in this yet ending pandemic. A sampling frame of 384 respondents (Krejcie & Morgan, 1970) would be targeted to measure the sustainability consciousness among TVET students and lectures.

Variables	Cronbach Alpha Coefficients	Number of items in a construct	Reliability Coefficient
Sustainable Knowledge	0.916	12	Excellent
Sustainable Attitude	0.916	10	Excellent
Sustainable Behaviour	0.917	15	Excellent

Table 1 : Reliability Statistics

Criteria	Description	Frequency	Percentage
Age	16 to 19 years	3	4.7
	Above 20 years	60	95.3
Gender	Male	13	19.4
	Female	50	80.6
Location	Rural Area	23	37.5
	Sub Urban Area	33	53.2
	Urban Area	7	9.7
	Certificates	2	1.26
Education Level	Diploma	58	92.1
	First Degree	2	1.26
	Postgraduate	1	1.5
Races	Malay	60	95.2
	Indian	3	4.8

Table 2 : Demographic Detail

The above tables show the reliability statistics and demographic detail from the preliminary findings of the study. The reliability coefficient exhibited a high level of internal consistency. The instruments are good to measure the variables and infer to population.

The demographic details as in the table show the brief description of the respondents. However, the details should be more vary and distributed. For instance, the race and gender should be distributed among all races in TVET Education. While the instruments have an overall excellent internal consistency, this pilot study would pun more concern on

### **3. CONCLUSION**

Based on described development and validation of adapted instruments, this study utilized to measure sustainable learning consciousness among the TVET community in Malaysia. Consequently, these instruments will be used for the study of the community at large and would fill the gap of the unknowing state of consciousness towards sustainability.

This study will utilize a cross-sectional quantitative study to measure Sustainable Learning and Sustainability Consciousness in TVET Education during Covid 19 Pandemic. It utilizes simple random sampling and infer into the bigger TVET population. The pilot finding employs high-reliability sources of instruments which showed 0.9 of Cronbach Alpha value. The instrument have been developed and adopted which have four main construct and two screening and demographic detail section. The constructs would have more than three items to ensure high value of reliability measurement.

Sampling procedure will be followed in order to have robust result which can be successfully generalized. The result is hoped to contribute to TVET society at large using Theory of Reasoned Action which could significantly show the level of sustainability learning and consciousness. The findings could be used to integrate an appropriate sustainability plan and these inferential statistics using correlation and multiple regression would lead to factor identification of the dependent variables; sustainability behavior.

Sustainable behavior which will portray sustainability consciousness would be the first indicator to picture green and sustainability among youngsters in Malaysia. It should be taken into consideration that sustainability consciousness would hold valuable information on to escalate Malaysia in line to make this planet a better place for people in order to live in prosperity.

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